

Amendments to the Claims:

Please cancel claims 1 to 19 as presented in the underlying International Application No. PCT/EP2004/008926 without prejudice.

Please add the following new claims as indicated in the listing of claims below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 to 19 (canceled).

Claim 20 (new): A method for the automated application of a self-adhesive paint film to a bodywork part secured in a defined position using a freely programmable industrial robot provided with an application tool, the paint film being held ready in a multi-layered film composite in a further defined position in the working region of the industrial robot for picking up into the application tool using suction grippers, the multi-layered film including a protective strip on an adhesive side of the paint film and being provided with a contact piece attached on an end side, the protective strip being grasped at the contact piece and removed from the paint film, the paint film being held taut, and the adhesive side is thus exposed and the paint film being held taut being aligned in a precise distance position above the bodywork part to be covered, and, from a visible side of the paint film, with the paint film held in a fixed position over the bodywork part to be covered, the paint film is pressed progressively onto the bodywork part from the spaced-apart, taut position owing to a line of application moving over the paint film, the method comprising:

securing a rectangular section of the multilayered film composite protruding on all sides over the bodywork portion to be covered on all four sides in the application tool;

removing the protective strip on the adhesive side from the paint film in a stationary and complete manner, and

as the paint film is pressed on in a pressing-on operation, keeping the paint film under tensile stress at least transversely to the direction of the pressing-on operation as the pressing on operation continues.

Claim 21 (new): The method as claimed in claim 20, wherein the tensile stress directed transversely to the direction of the pressing-on operation is exerted in the paint film by a taut plane of the paint film progressively approaching the bodywork part to be covered, the bodywork part entering ever deeper into the taut plane while ensuring that, at an advancing point of effect of the line of application between the taut paint film and the surface of the bodywork part, a wedge-type gap opening in the direction in which the line of application continues is maintained.

Claim 22 (new): The method as claimed in claim 21 wherein as the paint film continues to be pressed on, the tensile stress in the taut part of the paint film or of the film composite is limited by an edge of the paint film or of the film composite being secured with a limited force, so that the paint film or the film composite can slide out of an edge clamp.

Claim 23 (new): The method as claimed in claim 20 wherein as the paint film continues to be pressed on, in addition to the transversely directed tensile stress a width spreading effect is also exerted on the paint film by a press-on doctor or press-on roller producing the continuing line of application.

Claim 24 (new): The method as claimed in claim 23 wherein the width spreading effect is exerted owing to a symmetrically curved profile of the advancing line of application, with a center of the line of application running ahead of application ends.

Claim 25 (new): The method as claimed in claim 20 wherein the multilayered film composite is a three-layered film composite in which the paint film is covered on the adhesive side by a protective strip and is contained in the form of a prefabricated paint film section and the paint film section is covered on its non-adhesive visible side by a self-adhesive protective strip of the rectangular section protruding over the paint film section on all sides, the paint film section being handled by the application tool indirectly and after the paint film section has been completely pressed on, the rectangular protective strip is removed owing to a suitable movement of the application tool from the paint film applied to the bodywork part, the protective strip being subsequently discarded via a waste collection container.

Claim 26 (new): The method as claimed in claim 20 wherein the multilayered film composite is made of only two layers, the paint film which is unprotected on the visible side and a protective strip adhering to the paint film on the adhesive side, the and which is designed overall as the rectangular section protruding on all sides over the bodywork portion to be covered, the paint film, after the protective strip has been removed, being handled directly and solely by the application tool and being applied to the bodywork part, the paint film being only subsequently cut into shape.

Claim 27 (new): The method as claimed in claim 26 wherein the paint film is cut into shape with the paint film still being held in the application tool using moveable cutters guided along templates integrated in the tool.

Claim 28 (new): The method as claimed in claim 20 wherein during the stationary removal of the protective strip on the adhesive side, a narrow radius of curvature is forced, at least initially, in the protective strip by a moveable counterpressure blade having a transverse edge rounded in a defined manner being held against the advancing removal point.

Claim 29 (new): The method as claimed in claim 20 wherein, during the application of paint film to the bodywork part when the bodywork part is elongated and curved symmetrically in a longitudinal direction, the paint film approaches the bodywork part in a region of the centrally situated line of symmetry and is pressed on from there by the line of application and a further simultaneously effective line of application advancing toward ends of the bodywork part.

Claim 30 (new): The method as claimed in claim 29 wherein the paint film, which is held taut, is inclined, as the paint film is being pressed on to the bodywork part to be covered, at the point of the line of application in accordance with an inclination of a surface of the bodywork part.

Claim 31 (new): A device for the automated application of self-adhesive paint film to a bodywork part secured in a defined position, the paint film being contained in a multi-layered

film composite including, apart from the paint film itself, at least a protective strip on an adhesive side of the paint film with a contact piece protruding on an end side and being connected to the protective strip, the device comprising:

- an application tool capable of being manipulated by a freely programmable industrial robot and capable of handling the paint film or the film composite and applying the paint film to the bodywork part;

- the application tool including a suction gripper forming a picking-up plane via active suction surfaces, the paint film or the film composite capable of being picked up from a held-ready flat position into the application tool in a taut state via the suction gripper, the suction gripper being capable of handling the paint film or film composite;

- a device for grasping the contact piece on the end side and for removing the protective strip on the adhesive side from the tautly-held paint film to expose the adhesive side;

- the application tool including a press-on doctor or press-on roller moveable in a longitudinal direction of the paint film and capable of being lowered from a rest position, in which the press-on doctor or press-on roller is moved away from the picking-up plane, into a working position situated in a region of the picking-up plane, in which case the paint film, which is aligned in a precise distance position above the bodywork part to be covered, is capable of being pressed progressively onto the bodywork part from the spaced-apart position at a predetermined force using the press-on doctor or press-on roller,

- the film composite containing the paint film being designed with regard to its outer contours as a rectangle protruding over the bodywork portion to be covered on all sides,

- the suction gripper being designed as a rectangular suction frame corresponding to a size of the film composite and capable of securing the film composite on all four sides,

- the device for grasping the contact piece on the end side of the film composite being a stationary gripper or gripper rolls for positionally fixed securing of the contact piece with which the protective strip on the adhesive side is capable of being removed from the tautly-held paint film in the application tool, owing to a relative movement of the application tool in relation to the stationary gripper or gripper rolls or a pull on the grasped contact piece.

Claim 32 (new): The device as claimed in claim 31 wherein the press-on roller or press-on doctor is designed or arranged in such a manner that an advancing line of application capable of being applied runs in a symmetrically curved manner, with a center of the line of application running ahead of application ends.

Claim 33 (new): The device as claimed in claim 31 wherein the press-on roller is provided with an elastic covering and is of cylindrical or slightly convex design and, when bearing against the bodywork part, is more sharply flattened under the press-on force in the center than at the ends of the roller.

Claim 34 (new): The device as claimed in claim 31 further comprising an additional separate press-on roller or additional press-on doctor, the press-on roller or press-on doctor and the additional press on roller or additional press-on doctor in each case being displaceable in themselves in the longitudinal direction and being arranged in a mirror-inverted manner with respect to each other in the application tool and capable of being moved simultaneously from a longitudinal center of the application tool toward ends of the application tool.

Claim 35 (new): The device as claimed in claim 31 further comprising a planar counterpressure blade, the plane of which is arranged at a distance above the gripper or gripping rollers and which can be moved parallel to itself in the plane of the counterpressure blade past a gripping opening of the gripper or gripping rollers with a presettable force in such a manner that the blade stretches the protective strip on the adhesive side in an L-shaped or U-shaped manner, the protective strip being grasped on the one hand by the stationary gripper or gripping rollers and on the other hand being held in the picking-up plane of the application tool, and forces a narrow radius of curvature on the protective strip as the protective strip loops around a transverse edge of the counterpressure blade.

Claim 36 (new): The device as claimed in claim 31 wherein for each frame limb of the suction frame, the application tool has a respective cutting template for cutting the applied paint film into shape, on which cutting templates cutters are guided moveably in a precise position.

Claim 37 (new): The device as claimed in claim 31 wherein the frame limbs of the suction gripper are divided into at least two suction chambers capable in each case of being separately subjected to a vacuum or ventilated, are directly adjacent to each other and extend in the longitudinal direction of one of the frame limbs.

Claim 38 (new): The device as claimed in claim 31 wherein a vacuum supplied to suction chambers of the suction gripper is in each case provided with a bypass valve for controlling level of the vacuum.